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Mineral Industry Surveys

For information, contact:
Michael J. Magyar, Molybdenum Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4964, Fax: (703) 648-7757
E-mail: mmagyar@usgs.gov

Cindy C. Chen (Data)
Telephone: (703) 648-7991
Fax: (703) 648-7792
E-mail: cchen1@usgs.gov

Internet: http://minerals.usgs.gov/minerals

MOLYBDENUM IN AUGUST 2005

Domestic production of molybdenum in concentrate in August 2005 was about 10% more than that of the previous month and was about 28% more than that of August 2004, according to the U.S. Geological Survey. Producer stocks of molybdenum in concentrate, oxide, and other product forms were about 5,930 metric tons (t) at the beginning of 2005 and about 7,240 t at the end of August.

According to Ryan's Notes (2005c), the August monthly average prices for U.S. ferromolybdenum (FeMo) ranged from $36.000 to $37.444 per pound of molybdenum content, compared with $37.000 to $38.556 in July. European FeMo monthly averages ranged from $72.889 to $73.667 per kilogram (kg) of molybdenum content in August as compared with $76.111 to $78.222 in July. In August, worldwide molybdenum oxide (MoO_3) prices ranged from $28.889 to $29.944 per pound versus $29.944 to $31.111 in July.

Molybdenum continued to show strong demand in the metallurgical and chemical sectors in the second quarter, according to an official of Phelps Dodge Corporation (Phoenix, AZ). Production disruptions in China and higher roaster capacity utilization continued to limit supply. "As a consequence, inventories are well below normal levels," according to the official. Steel mill curtailments in the third quarter are expected to be beyond normal levels because of efforts to draw down inventories, he said. He expected the chemical market to continue to show growth, especially from molybdenum-containing catalysts used for environmental compliance (Ryan's Notes, 2005a).

Japan's leading steel mill, JFE Steel Corporation (JFE) (Tokyo), announced it had developed JFE443CT, a corrosion resistant stainless steel with no nickel or molybdenum content. The new steel, with 21% chromium and 0.3% titanium, was developed to replace 304-grade stainless steel, as its production costs are 20% lower. Titanium addition was the key in stabilizing the steel's composition. JFE began sample shipments to its manufacturing customers in August and expected to produce 200 to 300 metric tons per month (t/mo) in 2005, with expansion to 2,000 t/mo in 2 to 3 years (Platts Metals Week, 2005).

Market sources said that the Chinese government had agreed to rules imposing a new 13% tax on molybdenum concentrate imports and a 17% tax on FeMo that is produced from imported concentrates and re-exported. Recent export figures show that total Chinese molybdenum exports increased by 1,000 t to 3,700 t in June as compared with those of May. Of the total exports for June, 2,940 t were in the form of FeMo. In the first 5 months of the year, molybdenum exports averaged 2,800 t/mo. This pattern was the same as in 2004, when exports were low for the first 5 months and then increased sharply for several months (Ryan's Notes, 2005b).

Included in this Mineral Industry Surveys are U.S. production and shipments of molybdenum concentrates and materials, U.S. consumption by end use, stocks of molybdenum material in July and August 2005, and trade data for June and July 2005.

References Cited

Platts Metals Week, 2005, JFE develops new Ni, Mo-free stainless: Platts Metals Week, v. 76, no. 34, August 22, p. 11.
Ryan's Notes, 2005a, Climax restart still in evaluation stage: Ryan's Notes, v. 11, no. 31, August 1, p. 1.
Ryan's Notes, 2005b, Market sources report Chinese tax increases: Ryan's Notes, v. 11, no. 31, August 1, p. 5.
Ryan's Notes, 2005c, [untitled]: Ryan's Notes, v. 11, no. 31, August 1, p. 10.

TABLE 1
U.S. SALIENT MOLYBDENUM CONCENTRATE STATISTICS[1]

(Metric tons, contained molybdenum)

	2004		2005		
	January-December[p]	January-August	July	August	January-August
Production	42,100	26,800	5,050 [r]	5,580	37,900
Shipments:[2]					
Domestic	31,100	19,900	3,280 [r]	3,810	25,100
Export	11,100	6,710	1,470	1,710	12,500

[p]Preliminary. [r]Revised.
[1]Data are rounded to no more than three significant digits.
[2]As reported by producers.

TABLE 2
U.S. REPORTED PRODUCTION AND SHIPMENTS OF MOLYBDENUM PRODUCTS[1]

(Metric tons, contained molybdenum)

	2004		2005		
	January-December[p]	January-August	July[r]	August	January-August
Gross production	66,300	40,800	7,930	7,480	55,400
Internal consumption[2]	42,000	25,600	5,280	4,860	35,300
Gross shipments	39,300	25,300	3,960	3,850	31,800

[p]Preliminary. [r]Revised.
[1]Data are rounded to no more than three significant digits.
[2]Includes molybdic oxides, metal powder, ammonium molybdate, sodium molybdate, and other.

TABLE 3

U.S. REPORTED CONSUMPTION, BY END USES, AND CONSUMER STOCKS OF MOLYBDENUM MATERIALS[1]

(Kilograms, contained molybdenum)

End use	Molybdic oxides	Ferro molyb-denum[2]	Ammonium and sodium molybdate	Molyb-denum scrap	Other	Total
2005, July:						
Steel:						
Carbon	10,100	W	--	--	W	10,100
High-strength low-alloy	35,400	9,190	--	--	11,300	55,900
Stainless and heat-resisting	160,000	66,100 r	--	W	6,510	233,000
Full alloy	149,000	223,000	--	--	1,510	374,000
Tool	57,200	W	--	--	--	57,200
Total	412,000	299,000	--	W	19,400	730,000
Cast irons (gray, malleable, and ductile iron)	W	9,550	--	--	763	10,300
Superalloys	103,000	W	--	(3)	120,000	224,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	80	5,150	--	--	11	5,240
Mill products made from metal powder[4]	--	--	--	--	156,000 r	156,000 r
Cemented carbides and related products[5]	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	2,050	2,050
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	11,000	11,000
Other	1,090	34,700 r	73,500	1,840	16,800	128,000
Grand total	593,000 r	348,000	73,500	1,840	326,000 r	1,340,000 r
Stocks, July 31, 2005	462,000 r	216,000 r	3,630	32,600	848,000	1,560,000 r
2005, August:						
Steel:						
Carbon	10,300	W	--	--	W	10,300
High-strength low-alloy	36,200	9,340	--	--	11,300	56,800
Stainless and heat-resisting	165,000	66,700	--	W	6,510	239,000
Full alloy	160,000	212,000	--	--	1,510	373,000
Tool	57,200	W	--	--	--	57,200
Total	429,000	288,000	--	W	19,400	736,000
Cast irons (gray, malleable, and ductile iron)	W	9,410	--	--	763	10,200
Superalloys	104,000	W	--	(3)	114,000	218,000
Alloys: (other than steels, cast irons, and superalloys)						
Welding materials (structural and hard-facing)	--	W	--	--	6	6
Other alloys	205	2,350	--	--	--	2,550
Mill products made from metal powder[4]	--	--	--	--	189,000	189,000
Cemented carbides and related products[5]	--	--	--	--	W	W
Chemical and ceramic uses:						
Pigments	--	--	W	--	--	W
Catalysts	77,300	--	W	--	W	77,300
Other chemicals	--	--	--	--	962	962
Miscellaneous and unspecified uses:						
Lubricants	--	--	--	--	10,900	10,900
Other	1,090	33,500	73,800	1,840	16,800	127,000
Grand total	612,000	333,000	73,800	1,840	351,000	1,370,000
Stocks, August 31, 2005	505,000	189,000	2,580	30,200	860,000	1,590,000

rRevised. W Withheld to avoid disclosing company proprietary data; included in "Other" of the "Miscellaneous and unspecified uses" category. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes calcium molybdate.

[3]Included in "Other" of the "Superalloys" category.

[4]Includes ingot, wire, rod, and sheet.

[5]Includes construction, mining, oil and gas, metalworking machinery.

TABLE 4
U.S. EXPORTS OF MOLYBDENUM ORES AND CONCENTRATES
(including roasted concentrate), BY COUNTRY[1]

(Kilograms, contained molybdenum)

	2004		2005		
Country	January-December	January-July	June	July	January-July
Australia	30,500	19,000	--	9,180	101,000
Austria	1,310,000	688,000	--	--	2,590
Belgium	6,470,000	3,450,000	562,000	500,000	3,080,000
Brazil	31,000	11,900	58,800	--	66,100
Canada	1,370,000	728,000	448,000	464,000	2,680,000
Chile	1,380,000	1,380,000	--	--	111,000
China	36,000	36,000	673,000	621,000	3,050,000
Costa Rica	26,700	21,300	617	--	3,810
India	430	--	--	2,890	37,300
Italy	--	--	--	--	35,100
Japan	5,730,000	3,140,000	298,000	444,000	1,380,000
Korea, Republic of	95,200	76,400	5,640	--	11,400
Mexico	3,910,000	1,230,000	69,900	495,000	1,570,000
Netherlands	14,100,000	7,880,000	2,260,000	1,410,000	10,400,000
Sweden	38,200	--	--	--	--
Taiwan	19,200	11,700	--	--	3,600
United Kingdom	8,910,000	4,690,000	581,000	356,000	4,070,000
Other	2,770,000	1,390,000	285,000	725	600,000
Total	46,200,000	24,800,000	5,240,000	4,300,000	27,200,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF FERROMOLYBDENUM, BY COUNTRY[1]

(Kilograms, contained molybdenum)

	2004		2005		
Country	January-December	January-July	June	July	January-July
Australia	1,090	1,090	--	--	--
Brazil	--	--	1,830	--	16,600
Canada	870,000	619,000	365,000	24,900	1,240,000
France	10,100	--	--	--	--
Indonesia	381	--	--	--	5,930
Mexico	33,700	33,100	408	--	4,940
Netherlands	--	--	--	--	33,300
Sweden	9,150	--	--	--	--
United Kingdom	491	491	--	--	--
Total	925,000	654,000	367,000	24,900	1,300,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF MOLYBDENUM PRODUCTS[1]

(Kilograms, unless otherwise specified)

	January-December 2004			July 2005			January-July 2005		
Material	Gross weight	Contained molybdenum	Value[2] (thousands)	Gross weight	Contained molybdenum	Value[2] (thousands)	Gross weight	Contained molybdenum	Value[2] (thousands)
Ore and concentrates roasted	7,580,000	4,710,000	$133,000	443,000	282,000	$20,200	5,020,000	3,140,000	$222,000
Ore and concentrates other	9,330,000	4,070,000	135,000	1,190,000	584,000	42,900	8,760,000	4,020,000	286,000
Molybdenum chemicals:									
Oxides and hydroxides	822,000	NA	15,800	101,000	NA	4,090	764,000	NA	23,700
Molydates of ammonium	1,940,000	1,330,000	18,400	537,000	319,000	4,030	2,770,000	1,790,000	30,100
Molydates (all others)	254,000	116,000	1,430	319	132	14	65,300	16,900	930
Molybdenum orange	1,030,000	NA	4,760	57,200	NA	297	493,000	NA	2,630
Ferromolybdenum	8,310,000	5,310,000	158,000	307,000	201,000	15,500	3,740,000	2,390,000	166,000
Molybdenum powders	139,000	95,200	4,930	8,900	8,900	878	47,700	42,500	4,070
Molybdenum unwrought	151,000	151,000	3,520	15,400	15,400	860	39,400	39,200	2,380
Molybdenum waste and scrap	454,000	415,000	10,200	31,900	31,100	2,540	330,000	321,000	24,000
Molybdenum wire	20,500	NA	2,010	1,580	NA	264	13,000	NA	2,000
Molybdenum other	132,000	NA	13,700	30,200	NA	3,430	97,800	NA	12,500
Total	30,200,000	16,200,000	501,000	2,720,000	1,440,000	95,000	22,100,000	11,800,000	776,000

NA Not available.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Customs value.

Source: U.S. Census Bureau.